

### ABSTRACT OF THE INVENTION

An apparatus for shaping heat softened glass sheets includes an upper mold having a full surface press face with a shaping surface generally contoured to the desired curvature of the sheets; a support device to support the sheets below the upper mold; a shaping rail having an upper sheet supporting surface that supports selected peripheral portions of the sheets, the sheet supporting surface having a profile corresponding to desired elevational contours of the selected peripheral portions of the sheets and complimenting corresponding portions of the upper mold shaping surface; a chamber positioned below the sheets; a moving device for moving the upper mold and the shaping rail relative to each other so as to press at least a periphery of the sheets against the upper mold shaping surface, and a connector to direct pressurized gas into the chamber to urge the sheets towards the upper mold press face.